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15. Ethics, rule of law and pandemic responses

Mark Findlay⁴⁰³

Introduction – legitimacy crisis?

In their report 'The Rule of Law in Times of Health Crises'⁴⁰⁴ Julinda Beqiraj, Jean-Pierre Gauci and Nyasha Weinberg identified certain conditions under which rule of law adherence can contribute to an effective pandemic response. These include:

- Transparency
- Clarity
- Participation, engagement and representation
- International cooperation
- Equality and equity
- Accountability and anti-corruption

In the context of pandemic control strategies and public reaction, the first three of these are particularly directed toward better ensuring public trust and citizen engagement. The remainder say something about governance responsibilities in the use of personal data. A quick comparison of the language used to describe these conditions and the central ethical principles espoused in AI ethics frames⁴⁰⁵ suggests aspirational commonality between rule of law and ethical discourse. Both ethics and rule of law compliance are meant to create an operational consciousness among designers and users of AI-technologies such as have been advocated and employed in COVID-19 control.⁴⁰⁶ In addition, the mass personal data sharing potentials emerging out of these

⁴⁰³ Professor of Law, Singapore Management University, Director of the Centre for AI and Data Governance (CAIDG). I am grateful for the research assistance of Jane Loo and Josephine Seah. The original draft of the ethics discourse section was written by Josephine Seah. Some of the material on ethics has been drawn from cited CAIDG publications in the field. This research is supported by the National Research Foundation, Singapore under its Emerging Areas Research Projects (EARP) Funding Initiative. Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not reflect the views of National Research Foundation, Singapore.

⁴⁰⁴ Julinda Beqiraj, Jean-Pierre Gauci and Nyasha Weinberg, 'The rule of law in times of health crisis' (*Bingham Centre for the Rule of Law*, 1 July 2020) <https://binghamcentre.biicl.org/documents/87_rule_of_law_in_time_of_health_crises_paper.pdf> accessed 11 July 2020; see also Julinda Beqiraj, Lucy Moxham, Anthony Wenton, 'Unity and Diversity in National Understandings of the Rule of Law in the EU' (*Bingham Centre for the Rule of Law*, 4 May 2020) <<https://binghamcentre.biicl.org/publications/unity-and-diversity-in-national-understandings-of-the-rule-of-law-in-the-eu-reconnect-deliverable-71>> accessed 15 July 2020.

⁴⁰⁵ Eduardo Magrani, 'New Perspectives on Ethics and the Laws of Artificial Intelligence', (2019) 8(3) *Internet Policy Review* <<https://policyreview.info/articles/analysis/new-perspectives-ethics-and-laws-artificial-intelligence>> accessed 20 July 2020.

⁴⁰⁶ Soumya Banerjee, 'A Framework for Designing Compassionate and Ethical Artificial Intelligence and Artificial Consciousness', (2018) 18(2-A) *Interdisciplinary Description of Complex Systems*

surveillance technologies have generated community disquiet⁴⁰⁷ that requires the reassurance of some recognition of individual rights and liberties.

My reading of the many expressions of community concern about the possible negative impact of pandemic surveillance technologies on freedom of association and movement, and challenges to individual integrity, suggests they can be reduced to these fundamentals: inclusion and actionability. In democratic nation-states where accountability and representation are essential conditions for governance legitimacy, distrust surrounding exceptional surveillance regimes will not only impact on the effectiveness of such technologies to achieve their anticipated prevention and control purposes,⁴⁰⁸ but may undermine a wider attitude of amenability and obedience to intrusive pandemic responses or those which depend on simple and recurrent attitudes of acceptance and cooperation.

This brief review promotes a regulatory thesis that recognises but goes well beyond conditions for achieving pandemic control. Simply put the argument recounts a growing dissatisfaction with ethics and principled design as either the single or primary self-regulatory regime ensuring responsible data use and trustworthy AI. From this foundation it proposes rule of law compliance as a parallel and supportive normative and operational direction to address the deficiencies likely in any over-reliance on ethics regulation. In expressions of resistance to COVID responses there has been little evidence of any prevailing confidence that assertions about ethical reflection answer the deeply felt and differentially identified reservations regarding surveillance and data usage in pandemic responses. While Ronan Cormacain seems confident that rule of law scrutiny, and the sound law-making procedures that result can make face mask requirements more legitimate,⁴⁰⁹ it remains likely that some oblique enhancement of procedural legitimacy will only address the failing of ethics to ground its normative claims in a pre-existing and generally accepted institutional order.⁴¹⁰

<https://www.researchgate.net/publication/322163242_A_Framework_for_Designing_Compassionate_and_Ethical_Artificial_Intelligence_and_Artificial_Consciousness> accessed 20 July 2020.

⁴⁰⁷ Consultancy Asia, 'Singaporean Attitudes to Personal COVID Personal Data Differ to Overseas Counterparts' (15 April 2020) <<https://www.consultancy.asia/news/3126/singaporean-attitudes-to-personal-covid-data-differ-to-overseas-counterparts>> accessed 20 July 2020.

⁴⁰⁸ Mark Lawrence Schrad, 'The Secret to Coronavirus Success is Trust', (*Foreign Policy*, 15 April 2020) <<https://foreignpolicy.com/2020/04/15/secret-success-coronavirus-trust-public-policy/>> accessed 20 July 2020.

⁴⁰⁹ Ronan Cormacain, 'Face Coverings on Public Transport Regulations: A Rule of Law Analysis' (*Bingham Centre for the Rule of Law*, 3 July 2020) <<https://binghamcentre.biicl.org/publications/coronavirus-face-coverings-on-public-transport-regulations-a-rule-of-law-analysis>> accessed 17 July 2020; Ronan Cormacain, 'Coronavirus Bill: A Rule of Law Analysis (Supplementary Report - House of Lords)' (*Bingham Centre for the Rule of Law*, 25 March 2020) <<https://binghamcentre.biicl.org/publications/coronavirus-bill-a-rule-of-law-analysis-supplementary-report-house-of-lords>>.

⁴¹⁰ 'Report on the rule of law', (*Venice Commission of the Council of Europe*, 26 March 2011) <[https://www.venice.coe.int/webforms/documents/?pdf=CDL-AD\(2011\)003rev-e](https://www.venice.coe.int/webforms/documents/?pdf=CDL-AD(2011)003rev-e)> accessed 16 July 2020; 'Rule of Law Checklist', (*Venice Commission of the Council of Europe*, 12 March 2016) <https://www.venice.coe.int/images/SITE%20IMAGES/Publications/Rule_of_Law_Check_List.pdf> accessed 13 July 2020.

Particular challenges to rule of law posed by pandemic responses including:

- Collection and processing of personal data
- Target surveillance (enforced quarantines and movement tracing)
- Strategic surveillance (such as QR code registration on entry)
- Video surveillance (CCTV cameras, facial recognition at ports of entry)
- Sensor surveillance (residential monitoring)

Active participation from the citizenry is required in policy formulation and roll-out if the governance expectations of justice, fairness, equality, explainability and answerability are to mean much more than vague ethical endowment.

The citizen disaffection with surveillance and mass data sharing in pandemic responses is a strong case in point for the crisis of legitimacy facing ethics as a regulator, and rule of law as any effective substitute. The conclusion of this reflection asserts that without the essence of democratic participation, in the form of citizen integration in emergency policymaking, and actionability if rights and liberties are compromised (both features of ‘thick rule of law’)⁴¹¹ then the regulatory legitimacy crisis facing principled regulatory regimes remains.

Problems with the “Ethical AI” discourse

This section summarises the main concerns emerging around ethical regulatory paradigms when applied to AI development and deployment, and the use of big data. Reduced to its essentials the critique advances on two fronts:

- that ethical principles as currently advanced by the AI and big data industry are elitist and insufficiently particular to form clear, strong and universal regulatory requirements, and
- that ethical attribution and distribution are not sufficient across the AI ecosystem due to the prioritising of organisational, commercial and professional counter-messages.

Over-representation of Industry Actors

Private companies like Google, Microsoft, IBM and Tencent have taken the lead in publishing their own ethics documents and principles.⁴¹² While it is unsurprising that companies at the forefront of

⁴¹¹ Brian Z. Tamanaha, *On the Rule of Law: History, Politics, Theory* (Cambridge University Press 2012).

⁴¹² Anna Jobin, Marcello Ienca and Effy Vayena, ‘The Global Landscape of AI Ethics Guidelines’ (2019) 1(9) *Nature Machine Intelligence*, at pp 389–99 <<https://doi.org/10.1038/s42256-019-0088-2>> accessed on 12 July 2020.

AI development want to have a hand in shaping the debates around the very technologies they are building and marketing, it would be naive to expect that they will abide by voluntary standards in the face of market pressures and growth imperatives.⁴¹³ The murky overlap between developer and self-regulator demand an evaluation of likely contradictions in incentives that work against the regulatory mission. The emergent critique in recent years has highlighted the hypocrisy of 'ethics washing', where industry players are able to hide behind the promotion and marketing of *Ethical AI* as a form of principled self-regulation, which then functions as an alternative to legislation and other harder-edged regulatory intervention.⁴¹⁴ In addition, Hagendorff has also highlighted the risk of big tech influencing research through increasing public-private partnerships and industry-funded AI research operations, thereby posing the risk of a "gradual buyout of research institutes."⁴¹⁵

Missing voices and issues from the debate

While ethical principles abound in the AI self-regulatory discourse, some scholars have increasingly highlighted to the narrowness of their advocacy, where both problems and solutions said to be addressed through ethics reflect the privileged voices of a minority. Hagendorff emphasises the gendered division in the drafting of ethics principles:

...the "male way" of thinking about ethical problems is reflected in almost all ethical guidelines by way of mentioning aspects such as accountability, privacy, or fairness. In contrast, almost no guideline talks about AI in contexts of care, nurture, help, welfare, social responsibility or ecological networks.⁴¹⁶

The review of various principle statements internationally by Jobin, Ienca, and Vayena⁴¹⁷ also revealed an under-representation of input from regions such as Africa, South and Central America and Central Asia. As they see it, "more economically developed countries are shaping this debate more than others, which raises concerns about neglecting local knowledge, cultural pluralism and the demands of global fairness."

This lack of diversity in the discourse advocating ethical AI development and use risks the replication of older forms of power hierarchies through a North world dominant treatment. As Lee points out:

⁴¹³ Thilo Hagendorff, 'The Ethics of AI Ethics: An Evaluation of Guidelines' (2020) 30, at pp 99-120 *Minds and Machines* <<https://doi.org/10.1007/s11023-020-09517-8>> accessed 17 July 2020.

⁴¹⁴ Hagendorff (n 413); Rodrigo Ochigame, 'The Invention of 'Ethical AI': How Big Tech Manipulates Academia to Avoid Regulation' (*The Intercept*, 21 December 2019) <<https://theintercept.com/2019/12/20/mit-ethical-ai-artificial-intelligence/>>; Karen Yeung, Andrew Howes, and Ganna Pogrebna, 'AI Governance by Human Rights-Centred Design, Deliberation and Oversight: An End to Ethics Washing' in M Dubber and F Pasquale (eds.), *The Oxford Handbook of AI Ethics* (OUP 2019) (forthcoming) accessed 12 July 2020.

⁴¹⁵ Hagendorff (n 413).

⁴¹⁶ Hagendorff (n 413) at p 103.

⁴¹⁷ Jobin, Ienca, and Vayena (n 412) at p 396.

[u]nless [developing economies] wish to plunge their people into poverty, they will be forced to negotiate with whichever country supplies most of their A.I. software — China or the United States — to essentially become that country’s economic dependent, taking in welfare subsidies in exchange for letting the “parent” nation’s A.I. companies continue to profit from the dependent country’s users.⁴¹⁸

Other important issues are similarly either missing or muted in the ethics self-regulatory discourse. These range from issues social responsibility and care, as mentioned above, to questions around the political abuse of AI software such as automated propaganda, bots, fake news, and deep fakes; on to the social and ecological costs of building AI systems, such as lithium mining, the exploitation of rare earth minerals, and the employment of “ghost workers” for data labelling and content moderation.⁴¹⁹

Gaps in shifting from principles to practice

Despite these reservations, and more general concerns about ever effectively operationalising such a smattering of general values and principles, there is continued activity within the AI and data management industries to translate at least some of these principles into practice. Aligned with this dynamic, most national AI strategies still revolve around a self-regulatory ethics core. As Hagendorff emphasises, accountability, privacy, or fairness appear in about 80% of all available guidelines and seem to be providing the “minimal requirements for building and using an “ethically sound” AI system.” Much technical effort has been concentrated on materialising these principles, like IBM’s “AI Fairness 360” toolkit and Google’s “What-If Tool”.

Even with a determination to operationalise the ethical use and development of AI within production teams, research suggests an increasing divide between the availability of ethics decision-making tools and their real-life application.⁴²⁰ This normative/operational dissonance may be explained by the following challenges across the AI ecosystem:

⁴¹⁸ Lee Kai-Fu, ‘The Real Threat of Artificial Intelligence’ (*The New York Times*, 25 June 2017) <<https://www.nytimes.com/2017/06/24/opinion/sunday/artificial-intelligence-economic-inequality.html>>.

⁴¹⁹ Hagendorff (n 413); Mary Gray and Suri Siddharth, *Ghost Work: How to Stop Silicon Valley from Building a New Global Underclass* (Eamon Dolan/Houghton Mifflin Harcourt 2019); Sarah Roberts, *Behind the Screen: Content Moderation in the Shadows of Social Media*, (Yale University Press 2019); Kate Crawford and Joler Vladan, ‘Anatomy of an AI System’ (2018) <<http://www.anatomyof.ai>>.

⁴²⁰ Morley et al., ‘From What to How: An Initial Review of Publicly Available AI Ethics Tools, Methods and Research to Translate Principles into Practices.’ (2019) *Science and Engineering Ethics* <<https://doi.org/10.1007/s11948-019-00165-5>> accessed on 12 July 2020; Ville Vakkuri, Kai-Kristian Kemell, Joni Kultanen, Mikko Siponen, and Pekka Abrahamsson, ‘Ethically Aligned Design of Autonomous Systems: Industry Viewpoint and an Empirical Study’ (2019) arXiv:1906.07946 [cs. CY] <<http://arxiv.org/abs/1906.07946>> accessed 12 July 2020; Schiff et al., ‘Principles to Practices for Responsible AI: Closing the Gap’ (2020) arXiv:2006.04707 [cs. CY] <<http://arxiv.org/abs/2006.04707>> accessed 12 July 2020; Kenneth Holstein,

Uncertainty over the distribution of responsibility

Who should take responsibility for thinking about the ethical implications of technology and the implementation of these ethics tools? How should responsibility be attributed and distributed across the AI ecosystem?⁴²¹ As Orr and Davis write:

“Technical systems pass through multiple hands over the trajectory of conception, design, implementation, and use. Myriad actors and organisations come in contact with a given AI product, and each has formative effects upon it. It remains unclear who the stewards of these technologies are, and where the burden of social responsibility lies”.⁴²²

Similarly, Schiff et al.⁴²³ have called this “the many hands problem”, where the distribution expertise required to build and market AI product leads to fundamentally different areas of operational focus, wherein some priorities are not aligned with the promotion of ethical values. For example, technically trained engineers may emphasise the quality and safety of their products and ignore the wider social implications of their output while business managers prioritise fiduciary responsibilities and profit in terms contract obligations. On the other end of the spectrum, social scientists and ethicists who are the most interested in addressing principled design may be stuck in advisory capacities without sufficient operational resources or organisational capacity and institutional power to require functional/capacity changes in production teams to reflect ethical attribution.

Uncertainty over and difficulty in assessing the impact of AI/ML models on individuals and society

Few ethics tools currently provide meaningful ways of assessing the impact/implications of using machine learning or an algorithm on individuals, their community, and society as a whole.⁴²⁴ On-site research has revealed that engineers tend to be more attuned to immediate and physical

Jennifer Wortman Vaughan, Hal Daumé III, Miro Dudík, and Hanna Wallach, ‘Improving Fairness in Machine Learning Systems: What Do Industry Practitioners Need?’ (Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (2019) - CHI '19) at pp 1–16 <<https://doi.org/10.1145/3290605.3300830>> accessed 12 July 2020; Michael Madaio, Luke Stark, Jennifer Wortman Vaughan, and Hanna Wallach, ‘Co-Designing Checklists to Understand Organizational Challenges and Opportunities Around Fairness in AI’ (2020) <<http://www.jennwv.com/papers/checklists.pdf>> accessed 17 July 2020.

⁴²¹ For an answer to attribution and distribution see Mark Findlay and Josephine Seah, “An Ecosystem Approach to Ethical Data Use: Experimental reflections”, (*CAIDG*, 13 May 2020) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3597912> accessed 19 July 2020.

⁴²² Will Orr and Jenny L. Davis, ‘Attributions of Ethical Responsibility by Artificial Intelligence Practitioners’ (2020) 23(5) *Information, Communication & Society*, 1–2 17: 2 <<https://doi.org/10.1080/1369118X.2020.1713842>> accessed 15 July 2020

⁴²³ Schiff et al. (n 420).

⁴²⁴ Morley et al. (n 420).

harms rather than broader evils such as social, emotional, or economic damage. Nonetheless, understanding risks posed by AI/ML models “requires looking well beyond a narrow set of topics such as bias, transparency, privacy, or safety and treating them as independent issues. Instead, the full range of topics and their complex interdependencies needs to be understood... such a task can be enormously difficult”.⁴²⁵

A disjunct between the availability of tools and the capacity of AI practitioners to affect change

Finally, the current dissonance between the recognition of ethical responsibilities and their application in practice is due to the heavy reliance on the voluntary and conscious compliance by AI practitioners embedded within the essential technical expertise governing their models. Yet this group is often constrained in their decision-making capacities by commercial or organisational externalities that usually take priority, such as managerial norms and client mandates.⁴²⁶ In highly competitive commercial and technological environments structured by comparatively pressing imperatives driving the “AI race”,⁴²⁷ the difficulty of measuring the success or failures of available decision-making constituents for addressing ethical issues means that:

...there is no clear problem statement (and therefore now clear business cast) that the ML community can use to justify time and financial investment in developing much-needed tools and techniques that truly enable pro-ethical design.⁴²⁸

In summary, the problems with the current *ethical AI* debate are these:

- A minority of voices are shaping the debate’s trajectory at the expense of a plurality of experiences, values, and norms.
- While the shift towards operationalisation does address the conceptual vagueness of AI principles⁴²⁹ it also has the effect of placing too many expectations on individuals to change the resist of problematic and harmful AI deployments. These individuals, while well-positioned to influence operational outcomes with their technical expertise of data processing and model development, are both typically untrained to recognise the larger societal implications of their work and constrained in their decision-making capacities to allocate more time and resources to addressing ethical considerations.

⁴²⁵ Schiff et al. (n 420).

⁴²⁶ Orr and Davis (n 422).

⁴²⁷ Hagendorff (n 413),

⁴²⁸ Morley et al. (n 410).

⁴²⁹ Ben Green, ‘Data Science as Political Action: Grounding Data Science in a Politics of Justice’ (2018) arXiv:1811.03435 [cs. CY] <<http://arxiv.org/abs/1811.03435>> accessed 17 July 2020; Jobin, Ienca, and Vayena (n 412).

- Can a solution be found for this uptake dilemma via a refinement of principled frameworks through the more focused application of micro ethics⁴³⁰ or virtue ethics⁴³¹ to achieve the more equitable and just development and deployment of AI/ML systems?

On the final contention, D'Ignazio and Klein⁴³² demand a move away from the language of ethics entirely. They suggest that *ethics* remains insufficient as an AI regulatory paradigm because it continues to assume that the source of AI risks and challenges (perceived and actual) lies within individuals and the technical systems they create and maintain, thereby failing to “acknowledge structural power differentials and work towards dismantling them”.⁴³³ Accepting this is the case, then the soft law approach behind AI ethics remains inadequate to prompt a deeper engagement with entrenched market and machine assumptions motivating the advance of AI or to recognise and take account of shifting perceptions and norms in society, much less the much more complex “global systems of racial capitalism, class inequality, and heteronormative patriarchy, rooted in colonial history”.⁴³⁴

Regulating Heteronormative Technology and Data Use

There is not the space in this brief review to flesh out why the application of AI and the use of big data in the current neoliberal market economy is heteronormative, patriarchal, class structured and neo-colonial. Some might say in any case it is unfair to blame the maths and the machine for a market model of multi-national capitalism which is at its source power differentiated. But for the purposes of the argument remaining, the power differentials which weigh heavily on the attribution and distribution of ethical responsibility across the AI ecosystem⁴³⁵ mean that a simple and singular reliance on a principled self-regulatory frame is unconvincing and naïve. In any measure, community disquiet over the rights and integrity challenges posed by AI-assisted surveillance technology and resultant mass data sharing in current pandemic responses makes clear that resorting to ethics discourse to reverse the resistance that accompanies these control strategies will not always produce a sufficiently compliant social context for their successful operation.

So, what do I propose as an ‘ethics plus’ regulatory alternative? Don’t get me wrong – I am not decrying the relevance of ethical regulatory considerations. It is important to promote a principled

⁴³⁰ Hagendorff (n 413).

⁴³¹ Shannon Vallor, *Technology and the Virtues: A Philosophical Guide to a Future Worth Wanting* (OUP 2016).

⁴³² Catherine D'Ignazio, and Lauren Klein, *Data Feminism* (MIT Press, 2020).

⁴³³ *ibid* at p 60.

⁴³⁴ Shakir Mohamed, Marie-Therese Png, and William Isaac, ‘Decolonial AI: Decolonial Theory as Sociotechnical Foresight in Artificial Intelligence’ (2020) *Philosophy & Technology* <<https://doi.org/10.1007/s13347-020-00405-8>> at p 9, accessed 17 July 2020

⁴³⁵ Findlay and Seah (n 421).

consciousness for influencing crucial decision-sites across the AI ecosystem. In other work⁴³⁶ we have proposed how that can be propagated and embedded through the identification of mutualised responsibility and the application of 'shared fairness'. Even so, such a consciousness will not counter the suspicions and negative perceptions of communities that are excluded from control policy developments and disempowered to challenge negative impacts that can and will impact civil rights and human dignity.

As mentioned earlier, rule of law discourse shares many of the principles espoused in AI ethics discourse. What sets rule of law apart is its essential connection with;

- A constitutional 'backbone' that gives definitive comparative measure against which self-regulation can be empirically reflected, and
- An inextricable connection to fair and just processes for effecting and actioning rights and remedies which normative principles originally determine but do not enforce.

At present, the Centre for AI and Data Governance is researching how certain structural inequalities in society mean that particular groups and communities are more vulnerable to pandemic health risks, and that choices concerning control strategies employed towards these vulnerabilities can exacerbate discrimination. Rule of law, with its commitment to equality, impartiality and fairness goes to the heart of this concern. Not only can rule of law ascription identify pre-existing inequality, and subsequent discrimination but it also is able to direct remedial processes for citizen inclusion (constitutional engagement) and rights activation (legal remedy provision).

In 'Rule of Law in Times of Health Crises', the authors take time to engage the relevance of anti-discrimination for rule of law. They observe that the virus exposes existing inequalities and vulnerabilities in society. The different responses to COVID impact different communities in different ways and tend to exacerbate endemic social dysfunction such as domestic violence, as well as triggering social discriminators that disadvantage health care access for ethnic minorities. The report advocates that such discrimination must be addressed through positive policy action measures, in line with obligations under equality legislation and constitutional protections ensuring gender justice and racial harmony.

In the report's view, consideration must also be given to groups such as prisoners, persons in residential care, persons who are homeless and/or living in shelters, refugee settlements, along with certain categories of workers, that because of their living conditions are not able to benefit from social distancing or other less intrusive control measures. When it comes to frontline health

⁴³⁶ *ibid.*

care workers, many of whom in economically advanced countries are migrant workers, the inadequate or delayed supply of personal protective equipment also heightens the risk from vulnerability through exposure.

Conclusion – actionability and integration

The first constituent of my contention that rule of law requires action for it to adequately address the legitimacy crisis facing the normative/principled frames for regulation of AI is inclusivity. A trawl through rule of law discourse recognises the importance citizen inclusion in achieving equality, accountability, transparency and certainty. If procedural justice is to be asserted in policymaking, particularly when it is tested in the exigencies of a health pandemic then the reassurance from a provident and paternal state can only go so far without the bolstering of representative citizen engagement.

In our work on COVID-19 control regulation⁴³⁷ we state concerning citizen inclusion in the control response crafting;

The reasons behind any limitation of individual liberties and integrity should be publicly enunciated by those promoting the data-harvesting technology with this potential. Information regarding the positive and negative impacts on safety and identity should be clearly and candidly canvassed in forms and formats that are accessible and understandable to all communities that the technologies will impact. As the scale and severity of the COVID-19 pandemic rose to the level of a global public health threat justifying restrictions on certain rights, then causal relations between threat control policy and intended outcomes must require informed and routine monitoring by civil society effected from intrusive technologies. Civil society can only perform a potent monitoring function if it is provided with up-to-date information, and constant information looping, that details the operation of data-harvesting. Civil society monitoring should be assisted by the regular review of operational objectives for the technology against rights and liberties measures, carried out by the technology promoters. Indeed, under the International Covenant on Economic, Social and Cultural Rights, which most countries have adopted, individuals have the right to “the highest attainable standard of physical and mental health.” Governments are obligated to take effective steps for the “prevention, treatment and control of epidemic, endemic, occupational and other diseases.” Concomitantly, careful attention to human rights such as non-discrimination and ethical principles like transparency and respect for human dignity can align with an effective control response

⁴³⁷ Mark Findlay and Nydia Remolina Leon, ‘Regulating Personal Data Usage in COVID-19 Control Conditions’ (*CAIDG*, 22 May 2020) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3607706> accessed 20 July 2020.

even in the turmoil and disruption that inevitably results in times of crisis, when the urgent need to protect health dominates discussions of potential harm to other individual rights. For these 'rights' to have localised meaning, technology promoters must translate principles into practice through a 'use-case approach' to control benefits and liberty/integrity intrusions. A useful way to embed this 'awareness' regulatory atmosphere is through recurrent and structured community consultations and conversations.

In keeping with this empowerment theme, the second constituent is the actionability/enforcement of rights and remedies. In their discussion of the relationship between rule of law principles and responses to public health emergencies, Beqiraj, Gauci and Weinberg⁴³⁸ identify the necessity for non-derogable rights to be protected absolutely and other rights to connect with effective remedies for challenging the legitimacy of derogation measures. It is at the level of enforcement that the rule of law in action parts ways with normative/principled regulatory frames which rest on voluntary compliance and perhaps a touch of reputational shaming.

In his opinion entitled 'Rule of Law and Enforcement' the then Chief Justice of New South Wales Jim Spiegelman said this about guaranteeing rule of law principles:

.. laws must be enforced in a rational and fair manner to enable the reasonable expectations of citizens to be realised.⁴³⁹

Elaborating on what he considers to be the vertical rule of law function, the relationship between the citizen and authority, Spiegelman concluded with a messenger from Chinese imperial history and a victim of Tudor tyranny:

Bao Gong's functions were not only judicial; they were executive and even, on occasions, legislative. In the Chinese imperial tradition, the execution and enforcement of the law and dispute resolution were part of an undifferentiated governmental function... Many of you will have heard of Thomas More, the Lord Chancellor of England who defied Henry VIII and was beheaded because of his refusal to support the King in his insistence on divorcing and marrying again. In a play by Robert Bolt entitled *A Man for All Seasons*, Thomas More delivers a passionate defence of the rule of law to his future son-in-law, Roper. More asserts that he knew what was legal, but not necessarily what was right, and would not interfere with the Devil himself, until he broke the law. The following exchange then occurred:

⁴³⁸ Beqiraj, Gauci and Weinberg (n 404)

⁴³⁹ JJ Spiegelman, Rule of Law Enforcement, (2003) 26 (1) UNSW Law Journal 200 <<http://classic.austlii.edu.au/au/journals/UNSWLawJl/2003/9.html>> accessed 20 July 2020.

ROPER: So now you give the Devil benefit of law!

MORE: Yes. What would you do? Cut a great road through the law to get after the Devil?

ROPER: I'd cut down every law in England to do that!

MORE: Oh? And when the last law was down, and the Devil turned round on you – where would you hide, Roper, the laws all being flat? This country's planted thick with laws from coast to coast – man's laws, not God's – and if you cut them down ... d'you really think you could stand upright in the winds that would blow then? Yes, I'd give the Devil benefit of law, for my own safety's sake.

This imagery of the law as a protection from the forces of evil is an entirely appropriate one. Each society has its own devils, some real, some imagined. The forest of laws that are planted under the rule of law protects us from those devils.